

Reservoir Storage Outlook

May 27, 2008



State Water Projects Bureau
DNRC Water Resources Division

Montana DNRC State Water Projects Bureau Reservoirs



MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

WATER RESOURCES DIVISION - STATE WATER PROJECTS BUREAU

May 2008

All Contents in Acre-Feet

RESERVOIR	CAPACITY*	CONTENTS											% CAPACITY 5/15/2008
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	
	Full Pool												
	Contents												
ACKLEY	6,140	2,133	2,140	2,140	2,172	2,172	2,185	2,185	2,185				36
BAIR	7,300	1,514	1,560	1,537	1,600	1,583	1,655	1,810	1,900				26
CATARACT	1,478	272	303	333	363	310	310	275	350				24
COONEY	28,230	17,426	17,847	17,170	16,882	17,170	18,338	19,196	20,647				73
COTTONWOOD	1,900	149	185	190	190	239	269	593	593				31
DEADMAN'S BASIN	76,900	22,487	22,001	23,119	23,060	26,061	28,702	29,581	29,535				38
E.F. ROCK CREEK	16,040	7,246	8,150	8,900	9,584	10,160	10,678	11,338	11,470				72
FRENCHMAN	3,752	1,415	1,415	1,415	1,415	650	650	700	700				19
MARTINSDALE	23,348	0	0	0	0	0	699	1,731	1,750				7
MIDDLE CREEK	10,184	6,359	6,359	6,359	6,359	6,441	6,191	6,191	6,809				67
NEVADA CREEK	11,207	3,915	4,302	4,595	4,595	4,710	5,076	7,320	8,600				77
NILAN	10,992	4,701	5,029	5,392	5,687	6,055	6,269	6,558	6,865				62
N.FK. SMITH RIVER	11,406	4,228	4,415	4,685	4,765	5,083	5,264	5,856	6,488				57
RUBY RIVER	36,633	10,012	14,500	19,900	22,634	26,023	31,741	36,131	37,400				102
TONGUE RIVER	79,071	50,983	51,244	50,983	51,244	51,244	51,808	42,130	49,942				63
W.F. BITTERROOT	32,362	8,244	9,376	9,254	9,139	8,810	9,346	15,378	28,422				88
WILLOW CREEK	18,000	8,303	9,640	10,715	11,715	11,957	12,761	12,933	12,933				72
YELLOWATER	3,842	600	600	600	600	600	600	540	500				13

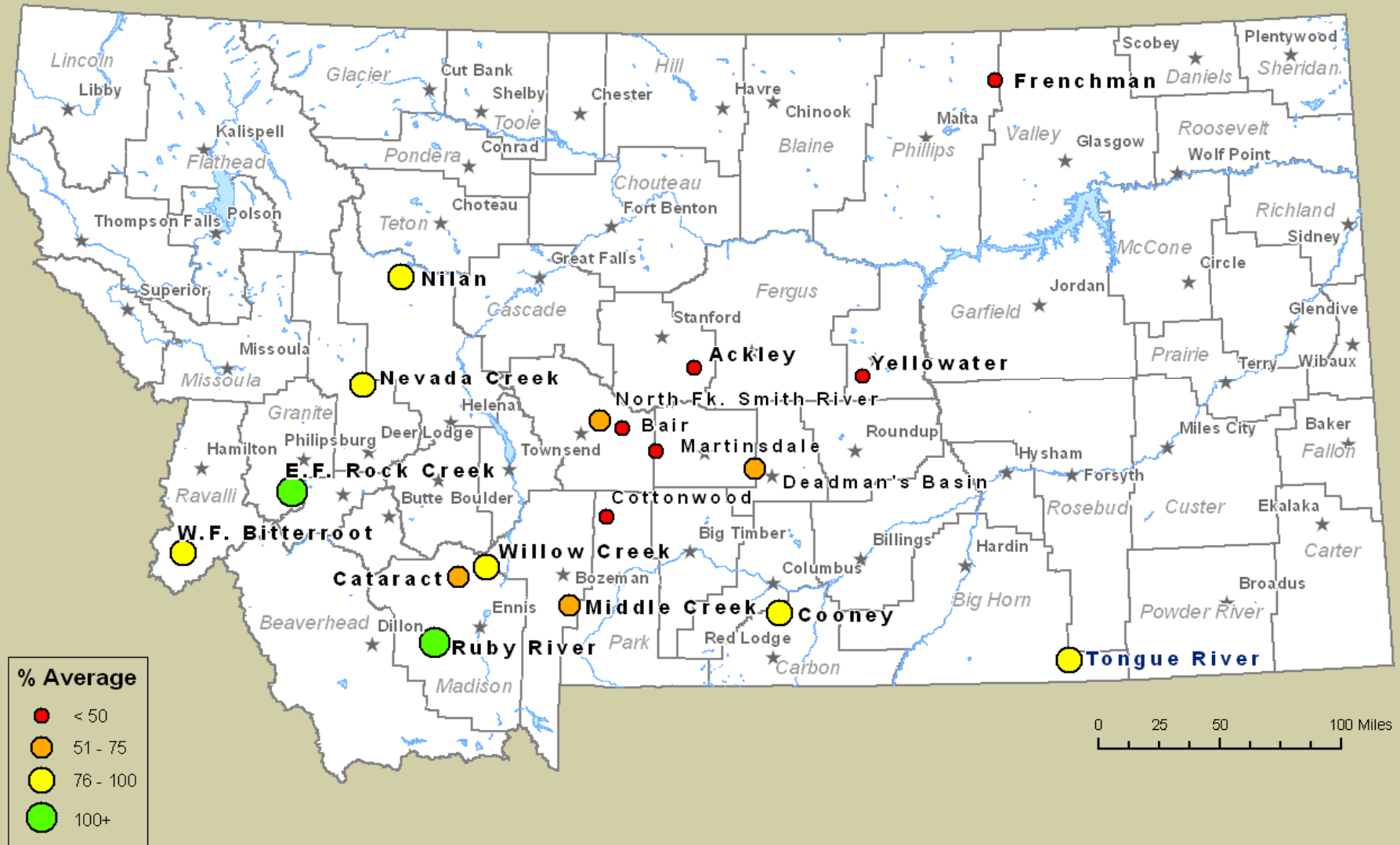
MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
WATER RESOURCES DIVISION - STATE WATER PROJECTS BUREAU
May 2008

All Contents in Acre-Feet

RESERVOIR	CAPACITY*	CONTENTS				% CAPACITY	% AVERAGE	Reading	COMMENTS
		AVERAGE	Last Year	Last Month	PRESENT				
		1960 - 2007	5/30/2007	4/30/2008	5/21/2008	5/21/2008	5/21/2008	Date	
	Full Pool								
	Contents								
ACKLEY	6,140	4,729	4,963	2,185	2,185	36	46	5/1/08	est. no change, last measured 4/2/2008
BAIR	7,300	5,737	3,547	1,810	1,900	26	33	5/13/08	from D. Mann sd = 316.0'
CATARACT	1,478	551	502	275	350	24	64	5/21/08	volume estimated
COONEY	28,230	23,809	22,800	19,196	20,647	73	87	4/28/08	from J. Krook
COTTONWOOD	1,900	1,417	1,430	593	593	31	42	5/2/08	from S. Compton sd = 52'
DEADMAN'S BASIN	75,968	53,282	44,003	29,581	29,535	39	55	5/13/08	from D. Mann sd = 473' (25,785 af)
E.F. ROCK CREEK	16,040	10,273	13,375	11,206	11,470	72	112	5/20/08	from data logger
FRENCHMAN	3,752	3,008	3,136	700	700	19	23	5/1/08	estimated 50 af increase
MARTINSDALE	23,348	15,948	6,021	1,731	1,750	7	11	5/13/08	from D. Mann sd = 476'
MIDDLE CREEK	10,184	9,476	10,184	6,191	6,809	67	72	5/16/08	S. Compton el.=6705.35'
NEVADA CREEK	11,207	11,044	10,870	7,320	8,600	77	78	5/20/08	from R. Hawkins el.=4608.51
NILAN	10,992	8,329	9,345	6,558	6,865	62	82	5/15/08	from J. Beck el.= 4433.59' (5965 af)
N.FK. SMITH RIVER	11,406	10,238	11,299	5,856	6,488	57	63	5/13/08	from D. Mann sd = 166'
RUBY RIVER	36,633	37,404	36,683	36,131	37,400	102	100	5/1/08	Spilling since may 6th 2008
TONGUE RIVER	79,071	63,772	80,213	40,866	49,942	63	78	5/20/08	from data logger
W.F. BITTERROOT	32,362	32,476	32,362	15,378	28,422	88	88	5/15/08	from L. Schock res elev = 4719.0'
WILLOW CREEK	18,000	16,734	17,602	12,933	12,933	72	77	5/1/08	from K. Strasheim sd = 109' (boat ramp)
YELLOWATER	3,842	1,210	816	540	500	13	41	5/20/08	from Chris King sd=19.9'

Reservoir Contents Report

May 20, 2008



Ackley Reservoir



Offstream Storage Judith River
Irrigates ~3,000 Acres

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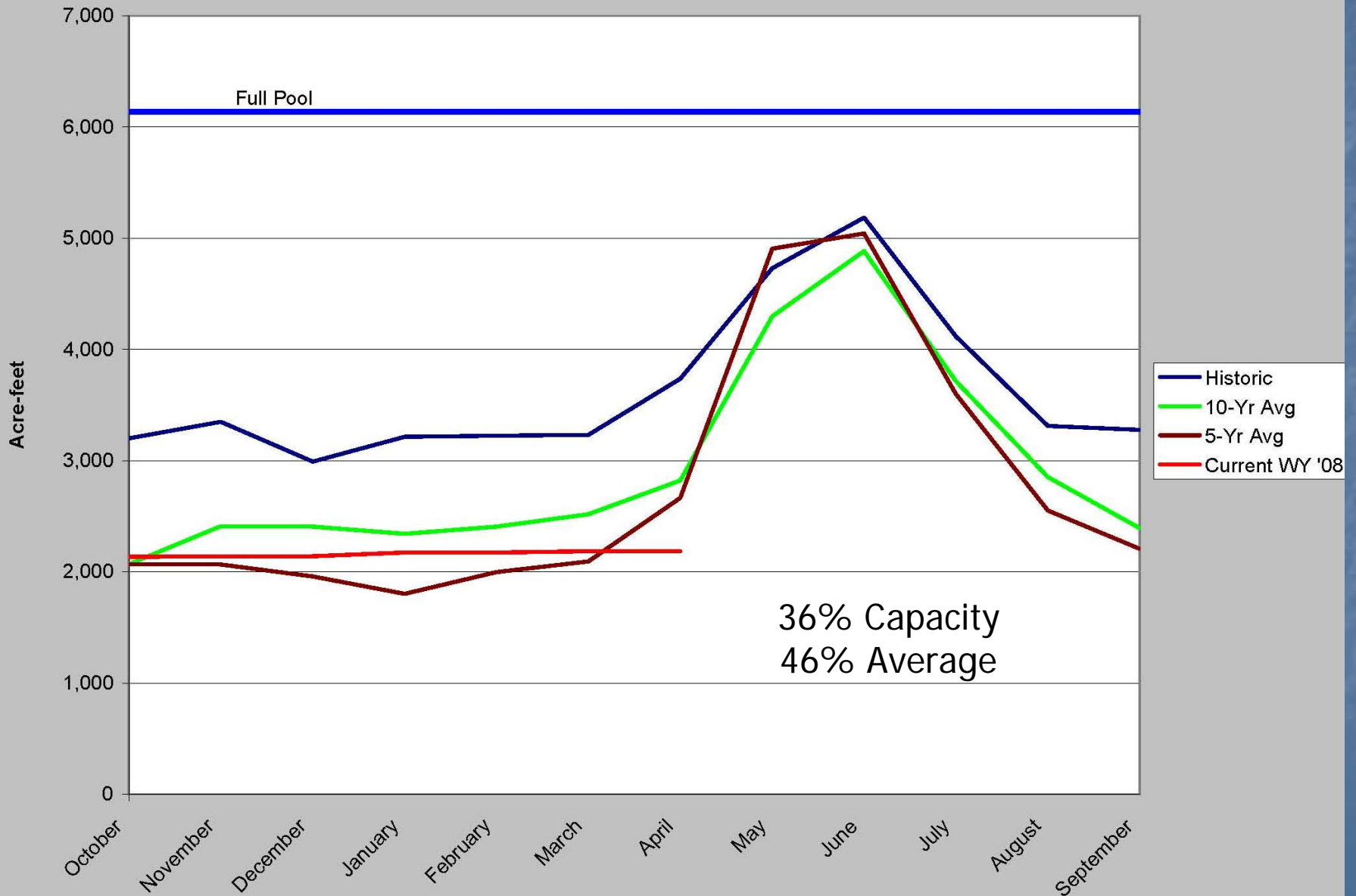
Pointer 46°57'09.81" N 109°56'24.56" W

Streaming ||||| 100%

Eye alt 1730 ft

Ackley Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Bair Reservoir



Instream Storage N.F. Musselshell
Supplements Martinsdale Reservoir
Total irrigation in cooperation with Martinsdale Reservoir ~35,000 Acres

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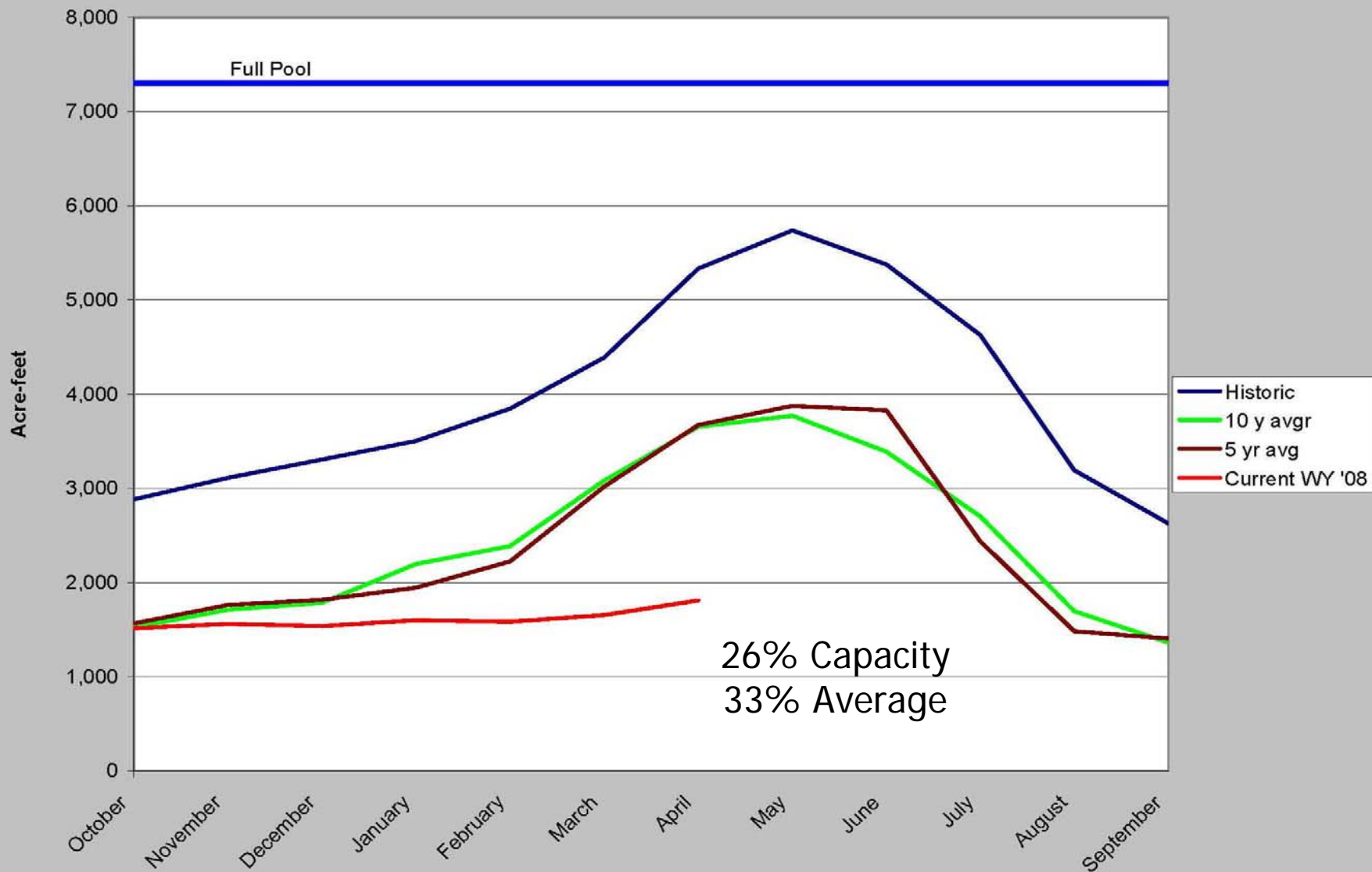
Pointer 46°34'59.48" N 110°33'44.20" W

Streaming ||||| 100%

Eye alt 2711 ft

Bair Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Martinsdale Reservoir



Offstream Storage S.F. Musselshell River
Supplemented from Bair Reservoir via N.F. Diversion Canal
Total Irrigation in cooperation w/Bair ~ 35,000 Acres

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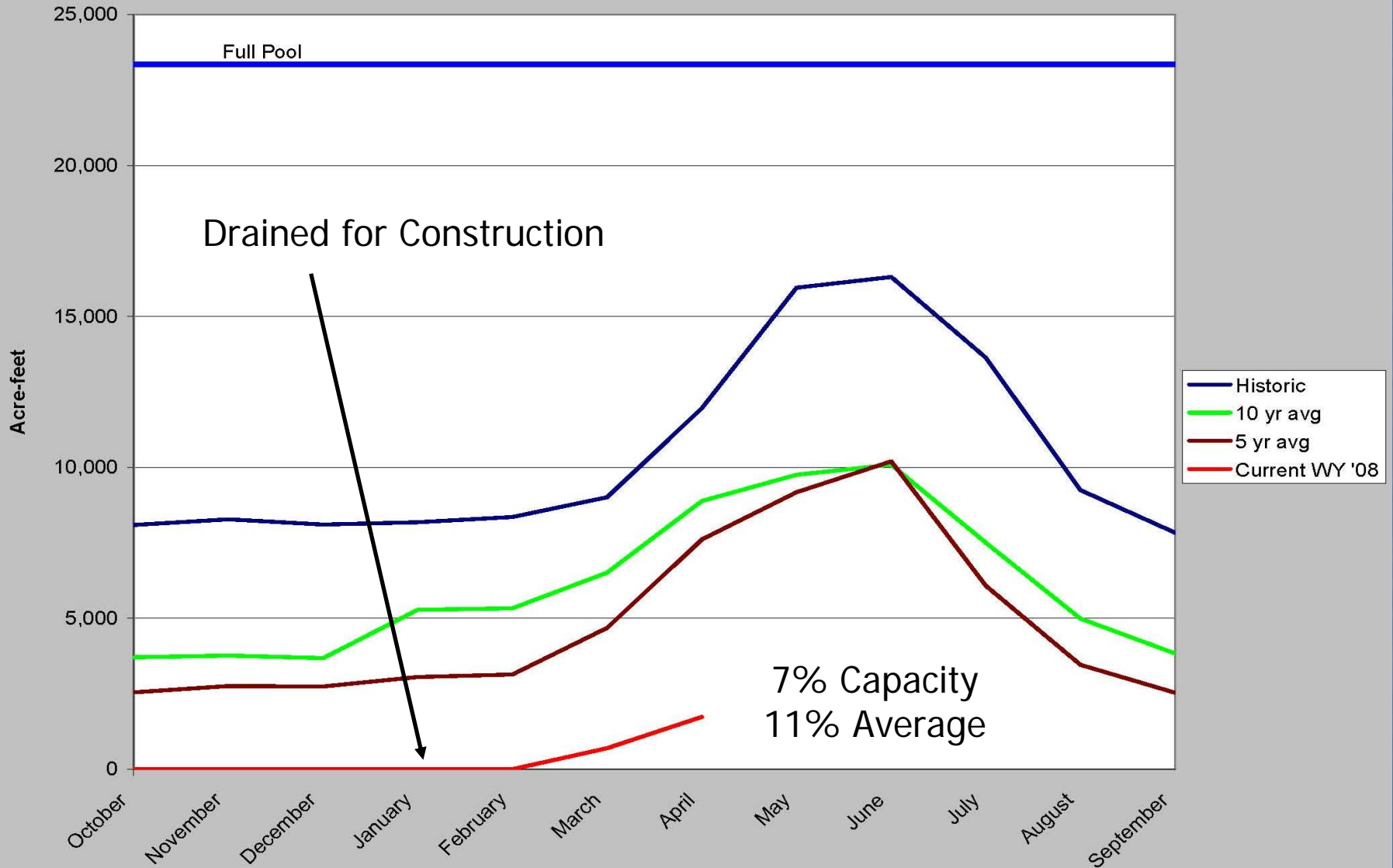
Pointer 46°26'34.30" N 110°16'33.51" W

Streaming ||||| 100%

Eye alt 4129 ft

Martinsdale Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Deadman's Basin



OffStream Storage Musselshell River
Irrigates ~ 34,000 Acres

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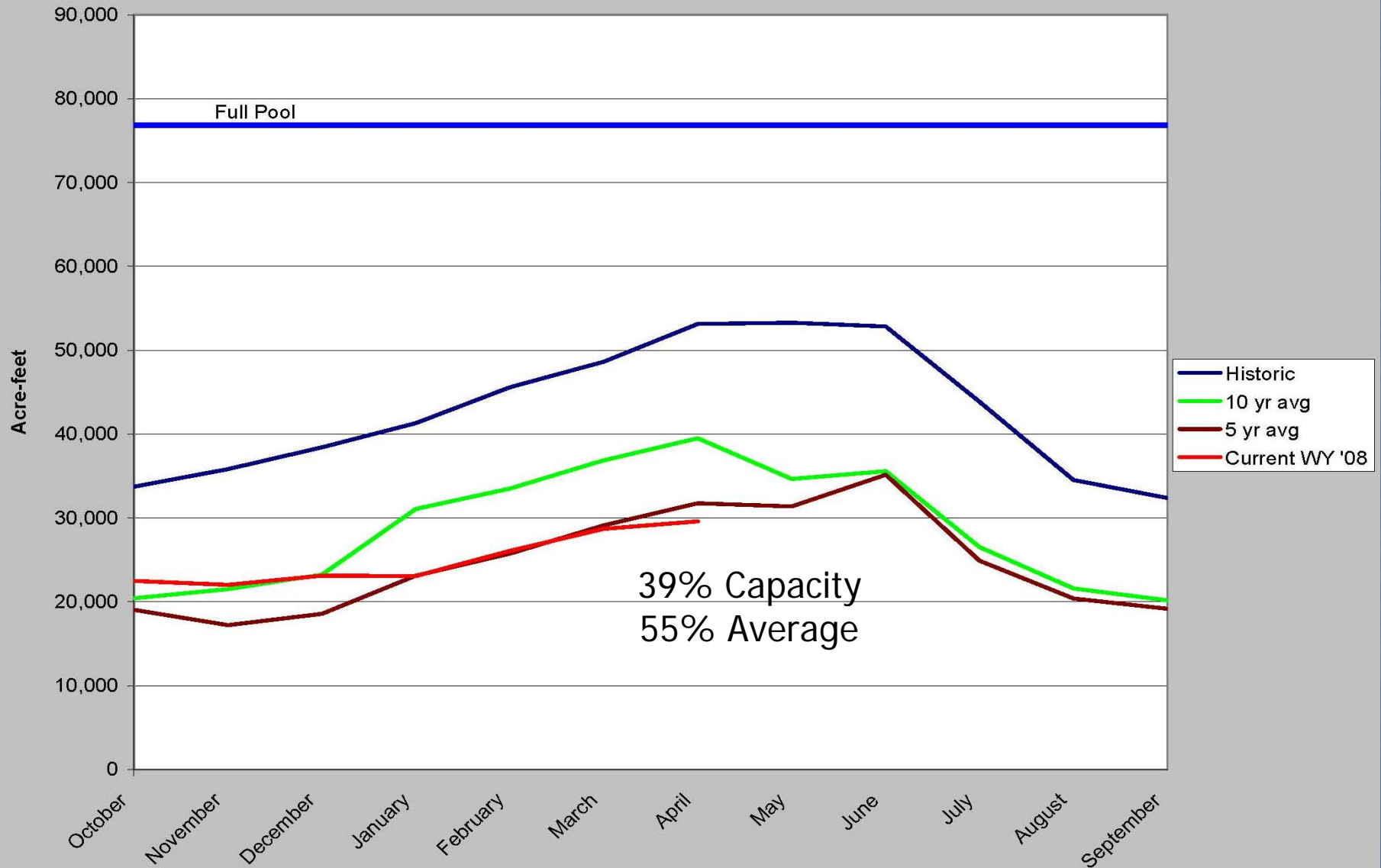
Pointer 46°20'41.08" N 109°25'50.84" W

Streaming ||||| 100%

Eye alt 9074 ft

Deadman's Basin

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Cooney Reservoir



Red Lodge Ck. And Willow Ck. supply water
Irrigates ~ 40,000 Acres

Image © 2008 DigitalGlobe

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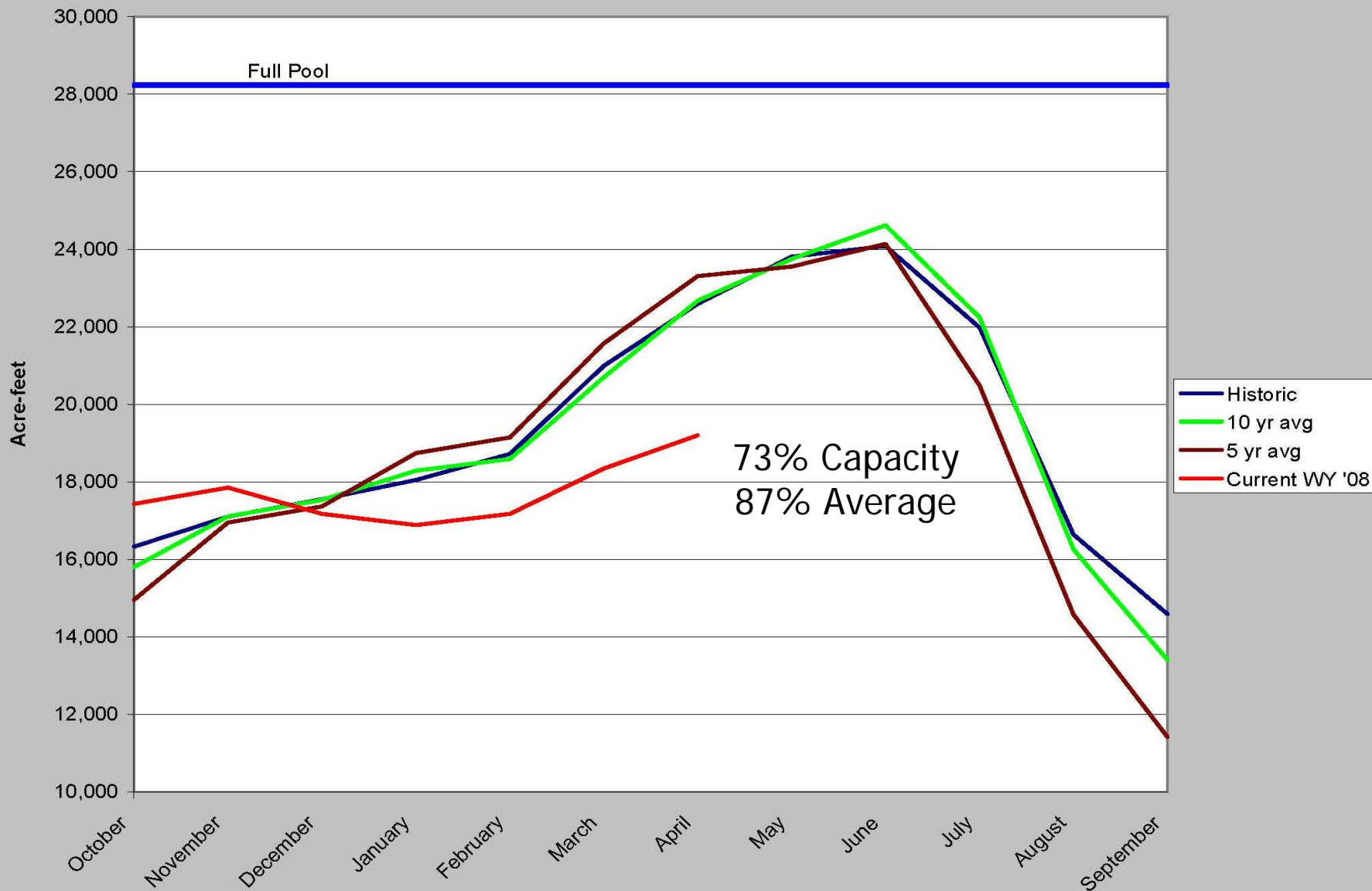
Pointer 45°26'43.51" N 109°13'21.35" W

Streaming ||||| 100%

Eye alt 6467 ft

Cooney Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



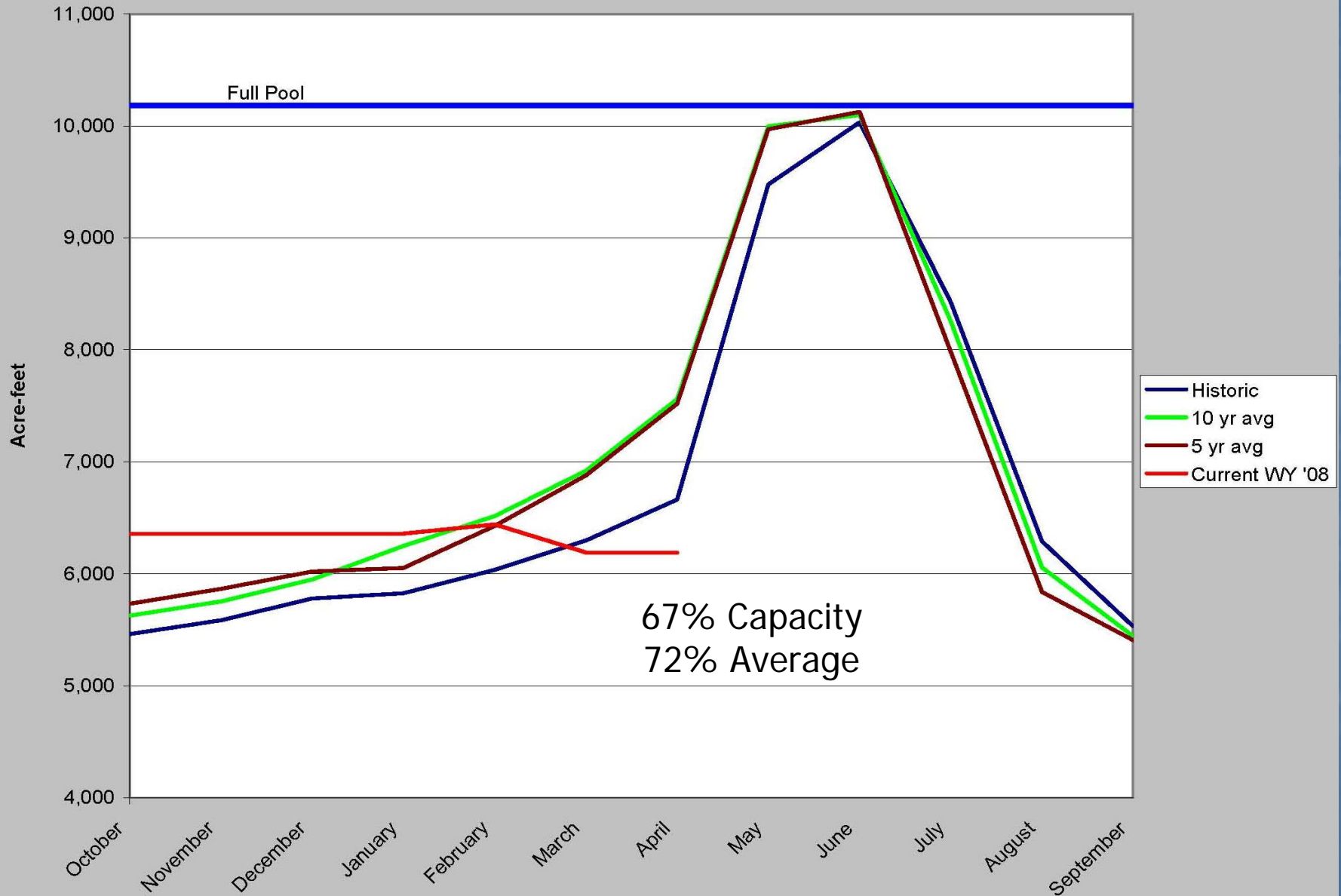
Middle Creek Reservoir



Instream Storage E.F. & W.F. Hyalite Ck.
Irrigates ~16,000 Acres
Municipal Water Supply for City of Bozeman

Middle Creek Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Ruby Reservoir



Instream Storage Ruby River
Irrigates ~ 33,000 Acres

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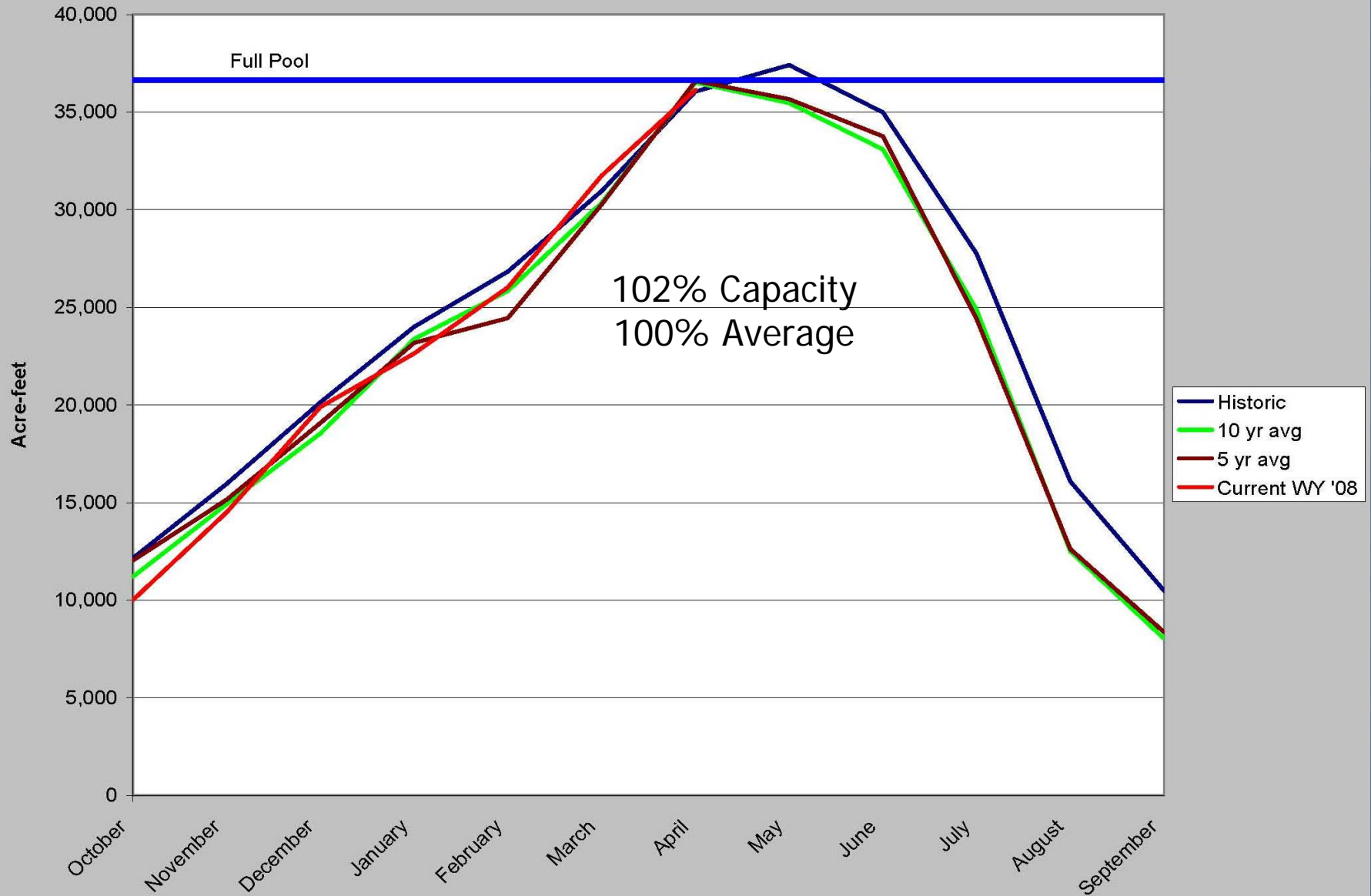
Pointer 45°12'58.85" N 112°08'21.82" W

Streaming ||||| 100%

Eye alt 5687 ft

Ruby Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



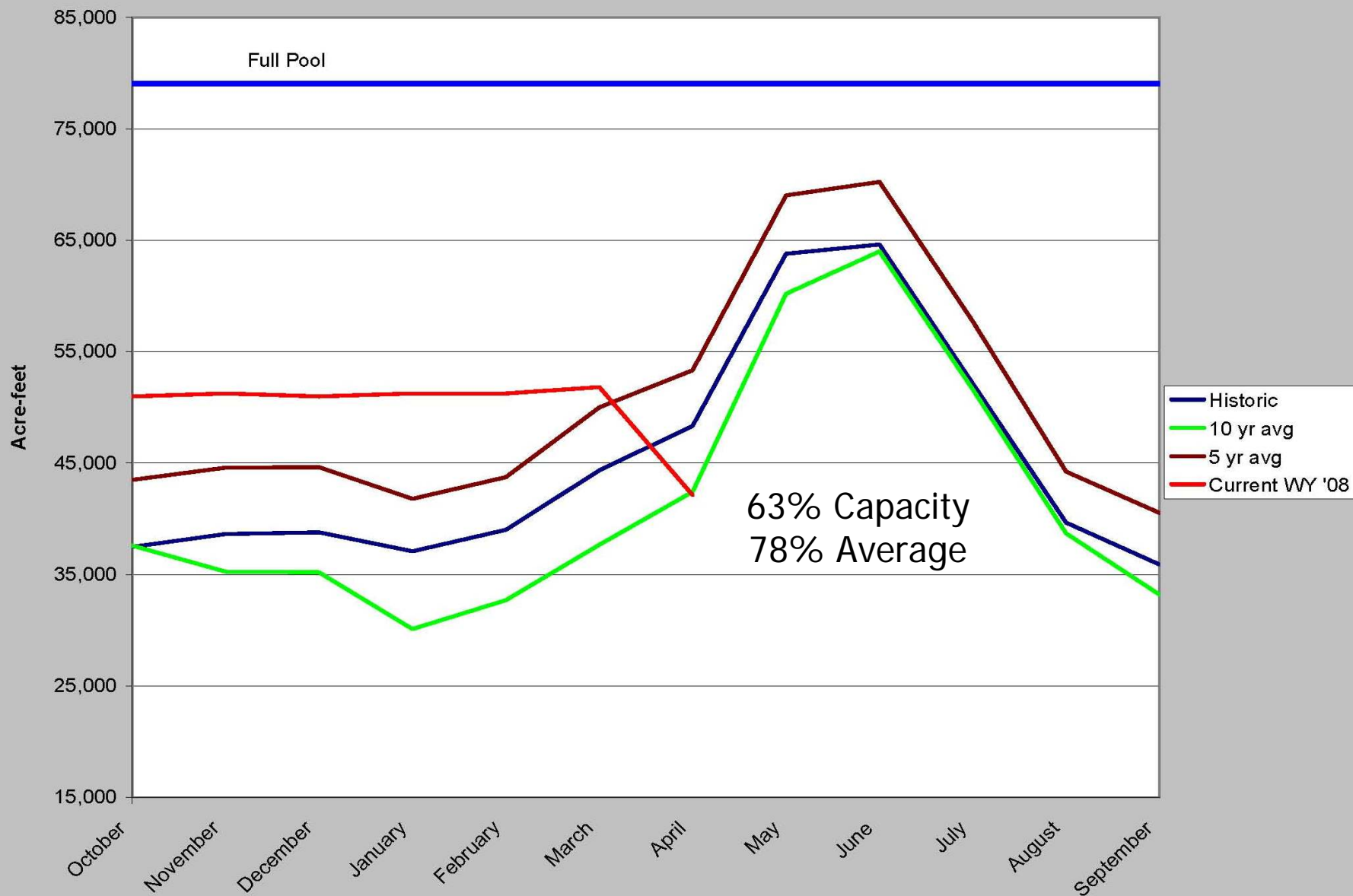
Tongue River

An aerial photograph of the Tongue River dam and reservoir. The reservoir is a large, calm body of blue water that fills the upper two-thirds of the frame. It is surrounded by green, rolling hills and some forested areas. In the lower third of the image, a long, light-colored concrete dam stretches across the width of the frame. To the right of the dam, the river flows over a series of smaller, stepped spillways, creating white water. The foreground shows a green field with a few small buildings and a dirt road. The overall scene is a mix of natural landscape and human-made infrastructure.

Instream Storage Tongue River
Irrigates ~30,000 acres

Tongue River

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Willow Creek Reservoir



Instream Storage Willow Ck. and Norwegian Ck.
Irrigates ~ 12,000 Acres

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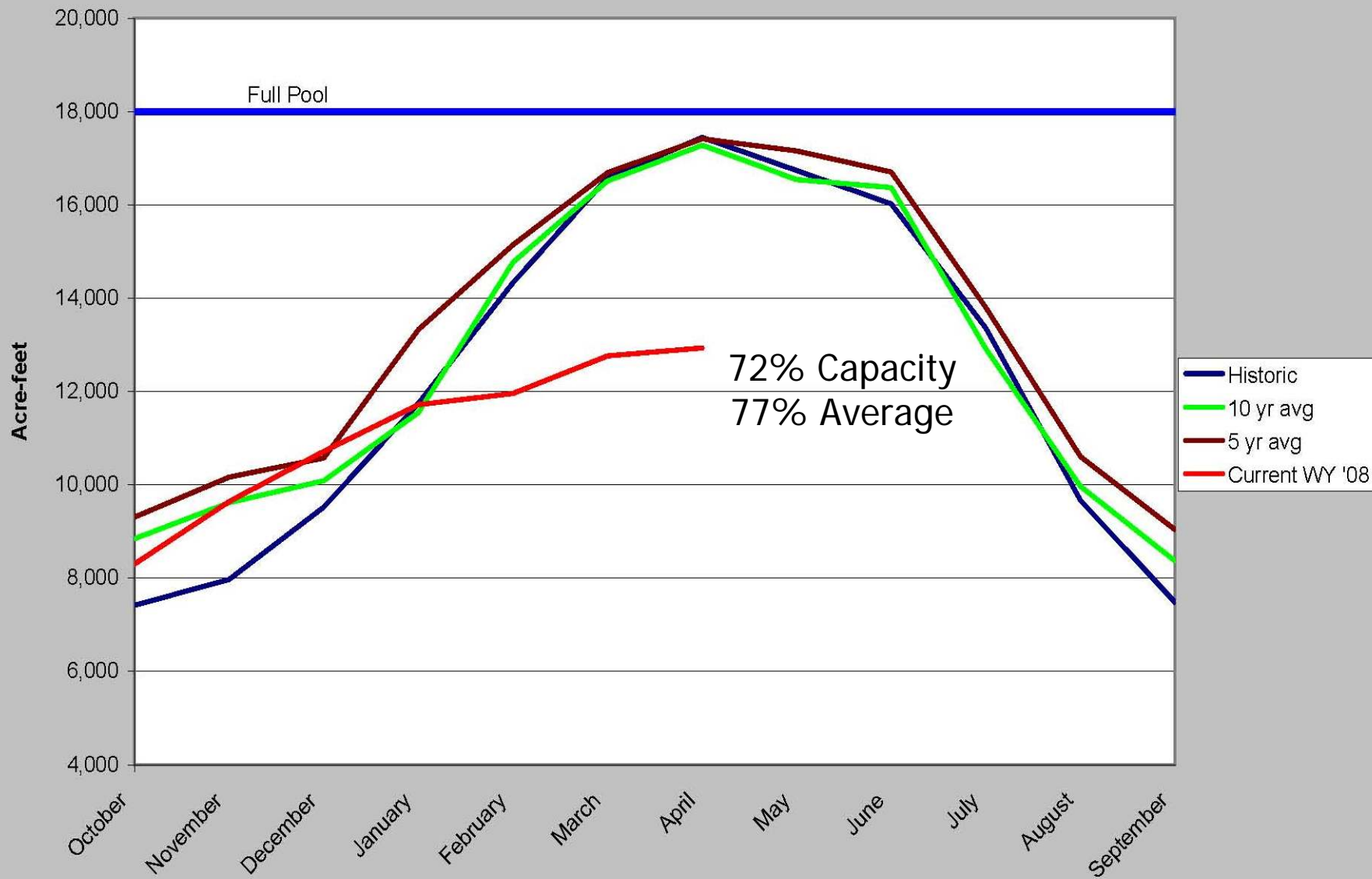
Pointer 45°41'30.20" N 111°42'46.09" W

Streaming ||||| 100%

Eye alt 5979 ft

Willow Creek Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



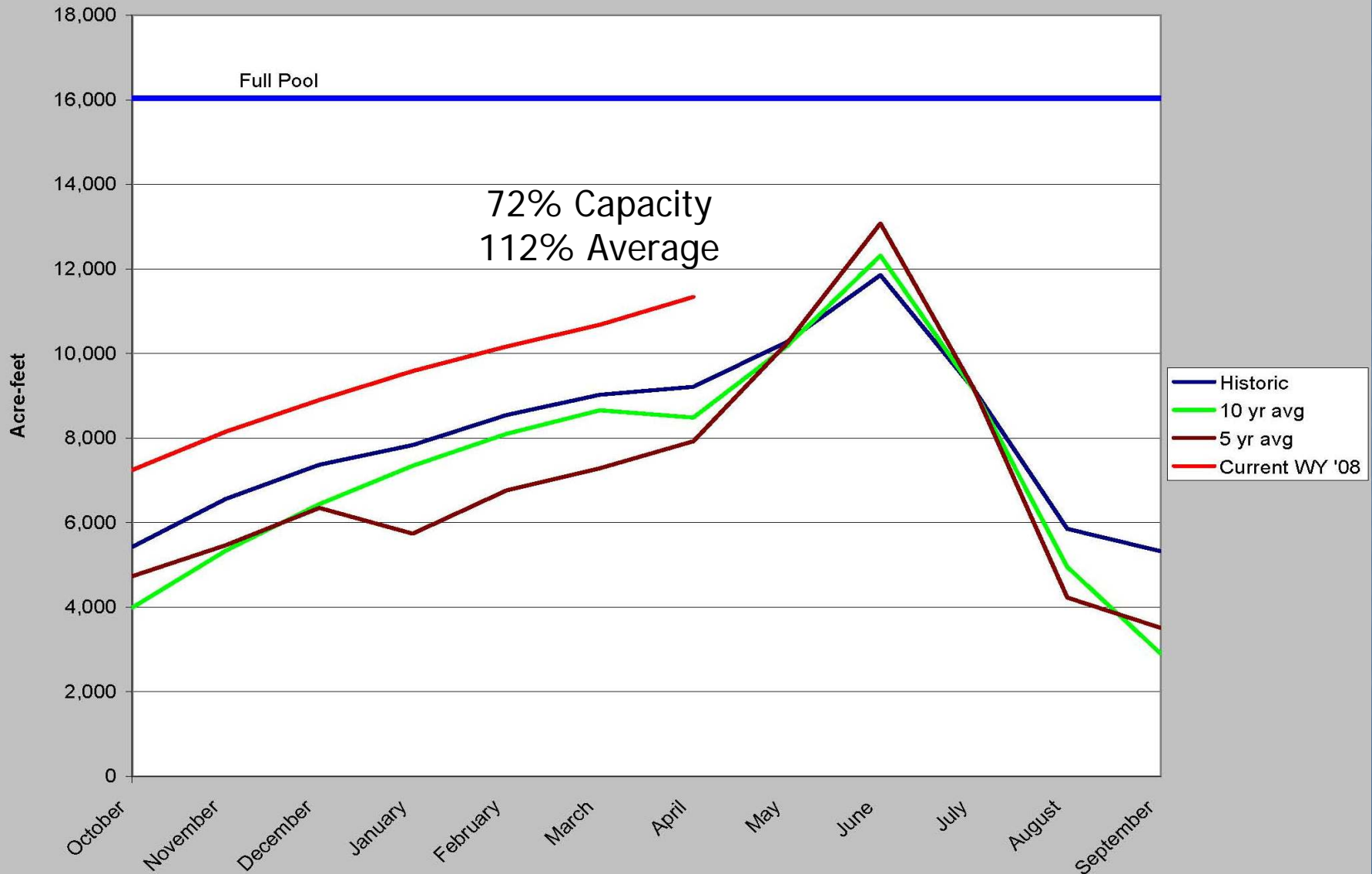
E.F. Rock Creek

Instream Storage E.F Rock Ck.
Irrigates ~ 25,000 Acres



East Fork Rock Creek Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



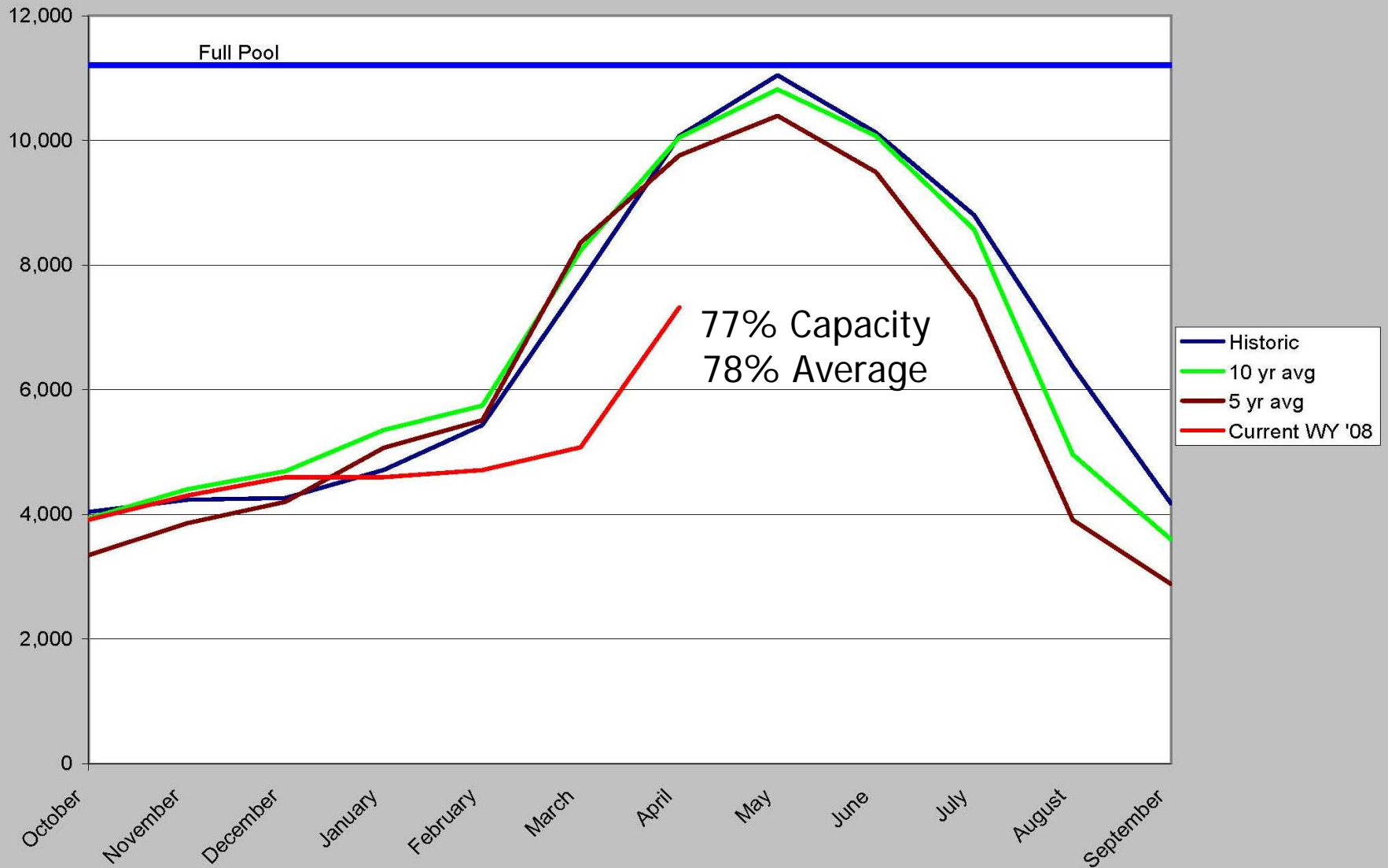
Nevada Creek Reservoir

Instream Storage Nevada Ck.
Irrigates ~ 10,000 Acres



Nevada Creek Reservoir

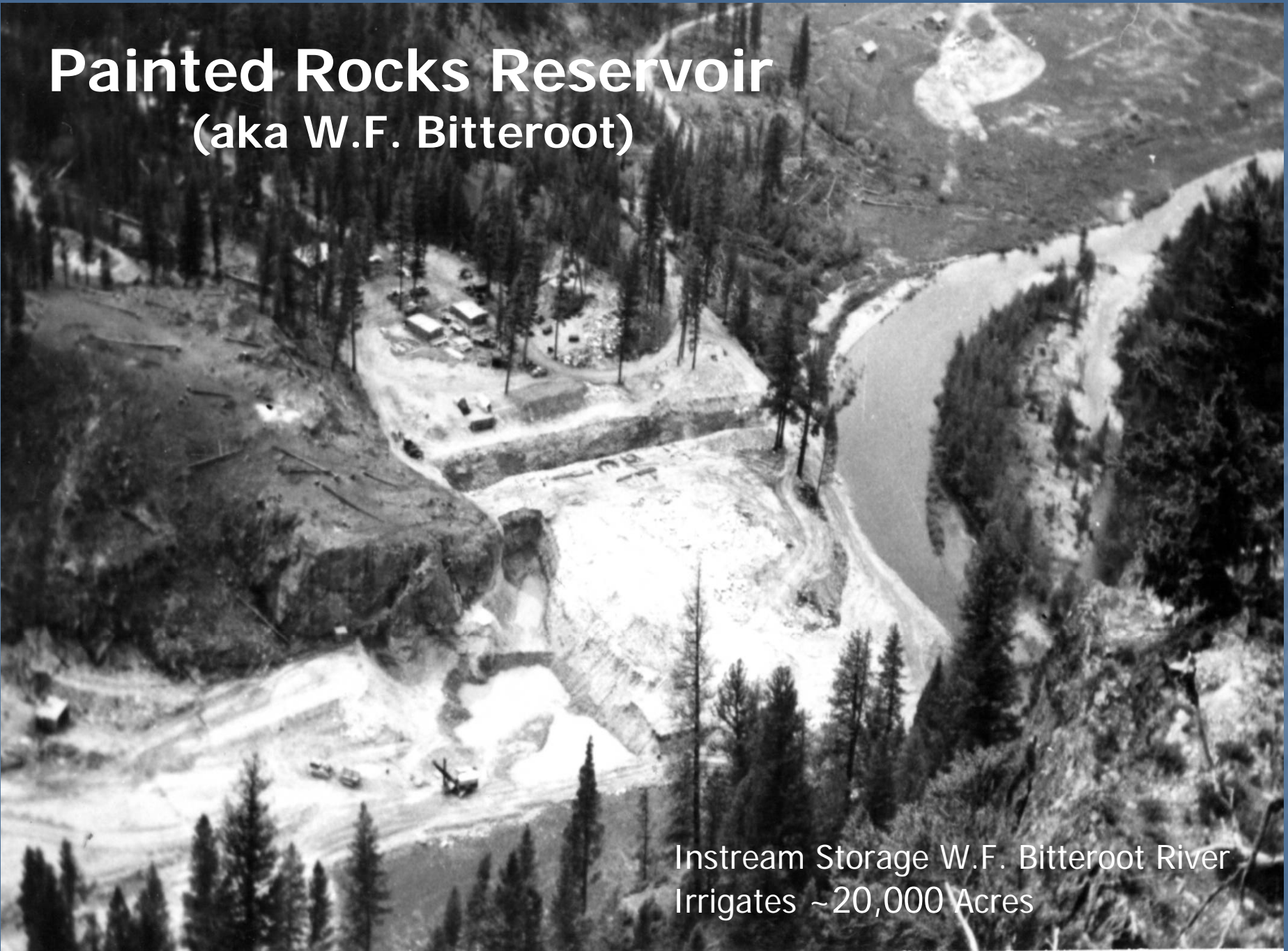
(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Painted Rocks Reservoir

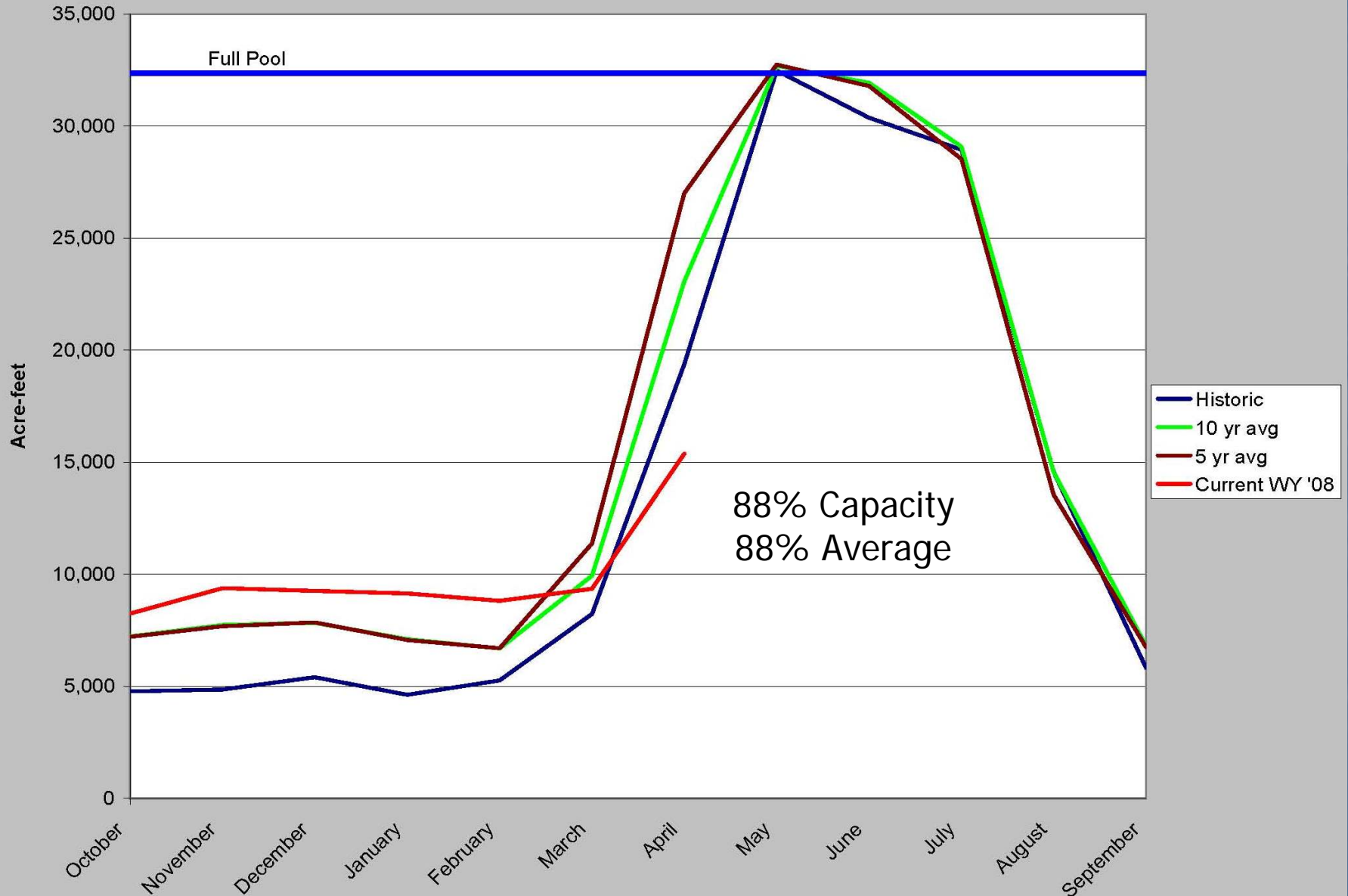
(aka W.F. Bitterroot)

Instream Storage W.F. Bitterroot River
Irrigates ~20,000 Acres



Painted Rocks Reservoir

(Historic, 10 yr, and 5 yr Average vs. Current Storage)



Other Notable State Projects

- Cataract Reservoir-located near Pony/Harrison
- Cottonwood Reservoir-located near Wilsall
- Frenchman Reservoir-located near Saco
- Fred Burr Reservoir-located near Hamilton
- Glacier Reservoir-supplemental to Cooney
- Nilan Reservoir-located near Augusta
- N.F. Smith River-located near White Sulphur Springs
- Yellowwater Reservoir-located near Winnet

Forecast

- Reservoirs West of Continental Divide, Tongue Reservoir, and Middle Creek Reservoir most likely will fill, deliverable contract water should =100%
- Majority of Reservoirs East of Continental Divide most likely will not fill unless increased precipitation occurs, deliverable contract water most likely will be less than 100%

Conclusions

- Storage is well below average for the Musselshell and Judith Basin Reservoirs
- Reservoirs West of the Divide fairing better than East of the Divide
- Later Snow Melt/Lack of Rainfall and Cold Spring Temperatures Slowed Early Spring Storage
- Recent Large Precipitation Event helpful to Storage
- Irrigation Season has started and water deliveries are being made